NC/QC/YPD-W-1/2018-19/JV-C1 Date: 20-02-2019

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : RAMCO
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**156min**	Shall not be less than 30 min
2	Final setting time	**265 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.35 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.15 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**29.34 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD-W-1/2018-19/JV-PCC1 **Date: 20-02-2019**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	**100.00**	85-100	90 – 100
20mm	**98.50**	0 -20	30- 70
10mm	**48.25**	0 -5	10- 35
4.75mm	**6.20**	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	**98.45**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**89.25**	60-95	75-100	85-100	
01.18	**65.35**	30-70	55-90	75-100	
600.mic	**48.90**	15-34	35-59	60-79	
300.mic	**23.60**	5-20	8-30	12-40	
150.mic	**8.40**	0-10	0-10	0-10	

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NC/QC/YPD-W-1/2018-19/JV-C2 Date: 21-02-2019

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : RAMCO
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**156 min**	Shall not be less than 30 min
2	Final setting time	**265 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.18%**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.03 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.87 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD-W-1/2018-19/JV--FA1 **Date: 21-02-2019**

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.

{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}

Ref.: Material testing/PMC/18-19,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**97.45**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**85.70**	60-95	75-100	85-100	
01.18	**76.35**	30-70	55-90	75-100	
600. mic	**45.80**	15.34	35-59	60-79	
300.mic	**26.10**	5-20	8-30	12-40	
150.mic	**7.05**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.76 %**	-----
2	Silt Content	----	**0.65 %**	Not more than 8%
3	Specific Gravity	----	**2.62**	-------

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NC/QC/YPD-W-1/2018-19/JV-CA1 **Date: 21-02-2019**

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.

{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}

Ref.: Material testing/PMC/18-19,

Report Required for: Assistant Executive Engineer,
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Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	**100.00**	100.00	100.00
20 mm	**98.50**	85-100	90 - 100
10 mm	**35.20**	0 - 20	25 - 55
4.75 mm	**3.90**	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	**Requirements** as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	**22.38 %**	Not to exceed 25 %
2.	Crushing value	**26.87 %**	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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NC/QC/YPD-W-1/2018-19/JV-S1 **Date: 21-02-2019**

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 10 and 12 mm **TMT Steel.**

{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}

Ref.: Material testing/PMC/18-19,

Report Required for: Assistant Executive Engineer,
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Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

TABLE – 1

SL No	Details	For 10 mm		For 12 mm	
		Test Results	Min Req. as per IS 1786-2008	**Test Results**	Min Req. as per IS 1786-2008
01	Observed diameter of bar	**10.0 mm**	10.0 mm	**12.0 mm**	12.0 mm
02	Observed Wt/m Length **Kg/m**	**0.616**	0.567	**0.893**	0.834
03	Proof stress/Yield stress, fy , **N/mm^2**	**548.0**	500.0	**532.0**	500.0
04	Bend/ Re bend Test	**Ok**	---	**Ok**	---
05	Percentage of Elongation, %	**21.60**	12.00	**21.10**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**645.0**	545.0	**628.0**	545.0

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NC/QC/YPD-W-1/2018-19/JV-CB1 **Date: 02-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-02-19	02-03-19	08	22500	370	16.44	**16.22**
	002	"	"	"	"	365	16.22	
	003	"	"	"	"	360	16.00	

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NC/QC/YPD-W-1/2018-19/JV-CB2 **Date: 02-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}

Ref.: Material testing/PMC/18-19,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-02-19	02-03-19	07	22500	380	16.89	**16.81**
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	385	17.11	

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NC/QC/YPD-W-1/2018-19/JV-CB3 **Date: 05-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	25-02-19	05-03-19	08	22500	365	16.22	**16.67**
	002	"	"	"	"	375	16.67	
	003	"	"	"	"	385	17.11	

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NC/QC/YPD-W-1/2018-19/JV-CB4 **Date: 05-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	26-02-19	05-03-19	08	22500	385	17.11	**16.59**
	002	"	"	"	"	360	16.00	
	003	"	"	"	"	375	16.67	

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NC/QC/YPD-W-1/2018-19/JV-CB1A **Date: 23-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-02-19	23-03-19	28	22500	505	22.44	**22.59**
	002	"	"	"	"	520	23.11	
	003	"	"	"	"	500	22.22	

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NC/QC/YPD-W-1/2018-19/JV-CB2A **Date: 23-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-02-19	23-03-19	28	22500	515	22.89	**22.81**
	002	"	"	"	"	500	22.22	
	003	"	"	"	"	525	23.33	

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NC/QC/YPD-W-1/2018-19/JV-CB3A **Date: 25-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	25-02-19	25-03-19	28	22500	510	22.67	**23.04**
	002	"	"	"	"	525	23.33	
	003	"	"	"	"	520	23.11	

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NC/QC/YPD-W-1/2018-19/JV-CB4A **Date: 26-03-2019**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	26-02-19	26-03-19	28	22500	510	22.67	**22.74**
	002	"	"	"	"	520	23.11	
	003	"	"	"	"	505	22.44	

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NC/QC/YPD-W-1/2018-19/JV-G1 **Date: 28-02-2019**

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (with close graded materials, Grade-II) mix.
{Project*: Improvements to roads and drains at Jayamuni Layout and Venktala Surrounding areas in ward No.01 at Yelahanka Sub Division.}
Ref.: Material testing/PMC/18-19,
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. Ramesh. Y. B, Bangalore.

TEST RESULTS

1. Gradation Test:
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
26.50	**96.85**	70-100
9.50	**71.05**	50-80
4.75	**58.95**	40-65
2.36	**44.30**	30-50
0.425	**14.15**	10-15
0.075	**4.55**	<5

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